

100240

CDM FEDERAL PROGRAMS CORPORATION

April 18, 1990

Ms. Elaine Spiewak
TES VII Regional Project Officer
U.S. Environmental Protection Agency
CERCLA Enforcement Section
841 Chestnut Street, 6th floor
Philadelphia, PA 19107

PROJECT: EPA CONTRACT NO.: 68-W9-0004
DOCUMENT NO.: TES7-C03041-EP-BQML
SUBJECT: Work Assignment C03041
Monthly RI/FS Oversight Report
Standard Chlorine of Delaware, Inc. Site
Delaware City, Delaware
TES7-C03041-RT-BQLH-02

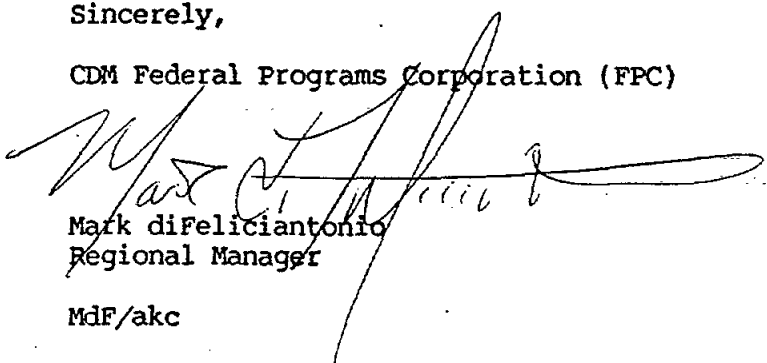
Dear Ms. Spiewak:

Please find enclosed the Monthly RI/FS Oversight Report for the Standard Chlorine of Delaware, Inc. site in Delaware City, Delaware as partial fulfillment of the reporting requirements for this work assignment.

If you have any comments regarding this submittal, please contact me at (215) 293-0450 within two weeks of the date of this letter.

Sincerely,

CDM Federal Programs Corporation (FPC)


Mark diFelicianantonio
Regional Manager

MdF/akc

Enclosure

cc: ~~Robert Guarni~~, EPA Work Assignment Manager, CERCLA Region 1
Jean Wright, TES VII Zone Project Officer (letter only)
Constance V. Braun, FPC Program Manager
Robert Murphy, Versar, Inc. (letter only)

MARCH RI/FS OVERSIGHT REPORT
STANDARD CHLORINE OF DELAWARE, INC. SITE
DELAWARE CITY, DELAWARE

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460

Work Assignment No.	: C03041
EPA Region	: III
Site No.	: 3PH6
Contract No.	: 68-W9-0004
CDM Federal Programs	
Corporation Document No.	: TES7-C03041-RT-BQLH-02
Work Assignment Project Manager	: Kathryn Garris
Telephone Number	: (215) 293-0450
Primary Contact	: Robert Guarni
Telephone Number	: (215) 597-3164
Date Prepared	: April 18, 1990

AR300529

1.0 INTRODUCTION

CDM Federal Programs Corporation (FPC) received a work assignment (WA No. C03041) for continued enforcement support to the U.S. Environmental Protection Agency (EPA) Region III during a Remedial Investigation/Feasibility Study (RI/FS) at the Standard Chlorine of Delaware, Inc. (SCD) site located in Delaware City, Delaware. The TES VII Team Member is conducting oversight of field investigations performed by the RP and their contractor, Roy F. Weston, Inc.

Standard Chlorine of Delaware, Inc. manufactures chlorobenzenes on a 46-acre site in Delaware City, Delaware. In September 1981, about 5,000 gallons of monochlorobenzene spilled from a railroad car on the Standard Chlorine property. Subsequent sampling was performed and identified chlorobenzenes in onsite soils, in shallow ground water underlying the site, and in nearby Red Lion Creek. The RP and their contractor, Roy F. Weston, Inc., have studied this problem and have prepared reports on the extent of contamination, evaluated remedial alternatives and feasible technologies, and have begun recovery of contaminated ground water at the site. In September 1985, the SCD site was proposed by the EPA for the National Priorities List (NPL).

On January 5, 1986, onsite storage tanks ruptured and 562,000 gallons of paradichlorobenzene and trichlorobenzene were spilled onto the SCD property and into the adjacent wetlands. The RP engaged a remedial contractor and initiated clean-up activities within hours of the spill occurrence. The RP and the clean-up contractor prepared the ESD detailing emergency clean-up activities and ongoing remedial activities at the SCD site.

Standard Chlorine signed a consent order with the Delaware Department of Natural Resources and Environmental Control (DNREC) on January 22, 1988. As required in the consent order, they submitted a Phase I RI/FS work plan for approval by DNREC. The consent order was then amended so that a single site-wide RI/FS could be performed. A revised RI/FS work plan was then submitted to EPA and DNREC and was approved for the current activities at the SCD site.

2.0 SUMMARY OF ACTIVITIES

The TES VII Team Member conducted oversight and obtained split samples during RP contractor field investigations on March 5 and 6, 1990, at the SCD site located in Delaware City, Delaware. A summary of the field activities observed by the TES VII Team Member are presented in this section. Details of the daily activities performed at the site were recorded in the field notebook. Copies of the notebook are included as Attachment 1.

The following personnel were present at the SCD site on March 5 and 6, 1990:

<u>Personnel</u>	<u>Affiliation</u>	<u>Dates at Site</u>
David Spencer	TES VII Team	March 5 and 6
Lorna Luebke	TES VII Team	March 5
John Cassel	Weston	March 5 and 6
Lisa Weiss	Weston	March 5
Jerry Dinkins	Weston	March 5 and 6
Dianne Wehner	Delaware DNREC	March 5

Fish sampling in Red Lion Creek was completed on March 5 and 6, 1990. Fish were collected at two locations, one upstream and one downstream of the SCD site. The downstream samples were collected first. The RP Contractor placed a gill net in the stream from bank to bank and then proceeded to patrol the stream in a flat bottom boat powered by a trolling motor. Electroshock probes were held in the water along the sides of the boat in an attempt to stun any fish encountered. A total of seven fish were collected at this location; all were carp. The upstream fish samples were collected in the same manner. A total of four fish were collected: two carp, one pumpkin seed, and one white sucker.

The five median weight fish from the downstream location were chosen for filleting, and the two carp collected upstream were filleted. The filleting was performed by the RP contractor. The fillets were rinsed in DI water. Alternating fillets (left and right) were provided to the TES VII Team Member for split sampling purposes. The TES VII Team Member removed a portion of each split sample fillet for total metals analysis. Each fillet was individually wrapped in aluminum foil and placed in zip lock plastic bags designated for that sample location. Fish samples were then placed on dry ice.

ice. Fish carcasses were retained by the RP contractor for whole body analysis.

The gill nets were left in place overnight on March 5, 1990. An additional five fish (carp) were obtained from the downstream sample location and were submitted for whole body analysis by the RP Contractor. Two additional fish (carp) were collected at the upstream location. These fish were prepared in the aforementioned manner and added to the fillets previously collected at the upstream location. The samples collected were as follows:

<u>TES VII Team Sample No.</u>	<u>Weston Sample No.</u>	<u>Sample Location</u>
F-1 (Five Fillets)	F-1 (Five Fillets Five Whole Body)	Downstream-Red Lion Creek
F-2 (Four Fillets)	F-2 (Four Fillets Four Whole Body)	Upstream-Red Lion Creek
	F-3 (Five Whole Body)	Downstream-Red Lion Creek

3.0 PROBLEMS AND RESOLUTIONS

The number of samples proposed to be collected by the RP contractor was eight: one fillet and one whole body sample of two species at each of two sampling locations. However, only one species (*Cyprinus carpio*) was collected at each sample location in numbers sufficient for analysis. It is likely that the reason for the lack of diversity was the time of year and temperature of the water. The RP contractor may perform additional sampling during an Endangerment Assessment to be completed later in 1990.

Upon arrival at the site, the TES VII Team Member was informed by Dianne Wehner (DRNEC) that two split samples of fish fillets were to be obtained. EPA had asked the TES VII Team Member to collect four split samples. Ms. Wehner stated that she had discussed this issue with Bob Guarni (U.S. EPA) and that it was determined that only two samples should be obtained, one predator species, and one bottom feeder. However, only one species was collected from the stream, and therefore, the split samples obtained from each location were of the same species.

4.0 FUTURE ACTIVITIES

During April, the RP contractor will continue attempts to resolve the Air Products and Occidental property access problems, so that the three offsite monitoring well can be installed. The TES VII Team Member will provide oversight during well installation and sampling following resolution of the problem.

AR300534

CDM FEDERAL PROGRAMS CORPORATION

March 15, 1990

Ms. Elaine Spiewak
TES VII Regional Project Officer
U.S. Environmental Protection Agency
CERCLA Enforcement Section
841 Chestnut Street, 6th floor
Philadelphia, PA 19107

PROJECT: EPA CONTRACT NO.: 68-W9-0004
DOCUMENT NO.: TES7-C03041-EP-BPCX
SUBJECT: Work Assignment C03041
February 1990 Monthly Oversight Report
Standard Chlorine Site
Delaware City, Delaware
TES7-C03041-RT-BPDB-02

Dear Ms. Spiewak:

Please find enclosed the February 1990 Monthly Oversight Report at the Standard Chlorine site in Delaware City, Delaware as partial fulfillment of the reporting requirements for this work assignment.

If you have any comments regarding this submittal, please contact me at (215) 293-0450 within two weeks of the date of this letter.

Sincerely,

CDM Federal Programs Corporation (FPC)


Mark diFeliciano
Regional Manager

MdF/akc

Enclosure

cc: Robert Guarni, EPA Work Assignment Manager, CERCLA Region III
Jean Wright, TES VII Zone Project Officer (letter only)
Constance V. Braun, FPC Program Manager
Robert Murphy, Versar, Inc. (letter only)

FEBRUARY 1990
MONTHLY OVERSIGHT REPORT
STANDARD CHLORINE SITE
DELAWARE CITY, DELAWARE

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460

Work Assignment No.	:	C03041
EPA Region	:	III
Site No.	:	3PH6
Contract No.	:	68-W9-0004
CDM Federal Programs		
Corporation Document No.	:	TES7-C03041-RT-BPDB-02
Work Assignment Project Manager	:	Kathryn Garris
Telephone Number	:	(215) 293-0450
Primary Contact	:	Robert Guarni
Telephone Number	:	(215) 597-3164
Date Prepared	:	March 15, 1990

AR300536

1.0 INTRODUCTION

CDM Federal Programs Corporation (FPC) received a work assignment (WA No. C03041) for continued enforcement support to the U.S. Environmental Protection Agency (EPA) Region III during a Remedial Investigation/Feasibility Study (RI/FS) at the Standard Chlorine of Delaware, Inc. (SCD) site located in Delaware City, Delaware. The TES VII Team Member is conducting oversight of field investigations performed by the RP and their contractor, Roy F. Weston, Inc., and their drilling subcontractor, James C. Anderson Drillers.

Standard Chlorine of Delaware, Inc. manufactures chlorobenzenes on a 46-acre site in Delaware City, Delaware. In September 1981, about 5,000 gallons of monochlorobenzene spilled from a railroad car on the Standard Chlorine property. Subsequent sampling was performed and identified chlorobenzenes in onsite soils, in shallow ground water underlying the site, and in nearby Red Lion Creek. The RP and their contractor, Roy F. Weston, Inc., have studied this problem and have prepared reports on the extent of contamination, evaluated remedial alternatives and feasible technologies, and have begun recovery of contaminated ground water at the site. In September 1985, the SCD site was proposed by the EPA for the National Priorities List (NPL).

On January 5, 1986, onsite storage tanks ruptured and 562,000 gallons of paradichlorobenzene and trichlorobenzene were spilled onto the SCD property and into the adjacent wetlands. The RP engaged a remedial contractor and initiated clean-up activities within hours of the spill occurrence. The RP and the clean-up contractor prepared the ESD detailing emergency clean-up activities and ongoing remedial activities at the SCD site.

Standard Chlorine signed a consent order with the Delaware Department of Natural Resources and Environmental Control (DNREC) on January 22, 1988. As required in the consent order, they submitted a Phase I RI/FS work plan for approval by DNREC. The consent order was then amended so that a single site-wide RI/FS could be performed. A revised RI/FS work plan was then submitted to EPA and DNREC and was approved for the current activities at the SCD site.

2.0 SUMMARY OF ACTIVITIES

The TES VII Team Member conducted oversight of the RP contractor field investigations from February 7, 1990, through February 23, 1990, at the SCD site located in Delaware City, Delaware. A summary of the field activities observed by the TES VII Team Member are presented in this section. Details of the daily activities performed at the site were recorded in the field notebook. Copies of the notebook are included as Attachment 1.

The following personnel were at the SCD site between February 7, 1990 and February 23, 1990:

<u>Personnel</u>	<u>Affiliation</u>	<u>Dates at Site</u>
Jan Spohn	TES VII Team	February 7, 8, 9, 20, 21, and 23
David Spencer	TES VII Team	February 14, 15, and 16
David Cairns	Weston	February 7, 8, 9, 14, and 15
Lyn Lawlor	Weston	February 9, 16, 20, 21, and 23
Pat Duran	Weston	February 8 and 9
John Urban	J.C.A. Drilling	February 7, 8, 9, 14, 15, and 16
Joe Jester	J.C.A. Drilling	February 7, 8, 9, 14, 15, 16, 20 21, and 23
Dave Borrel	J.C.A. Drilling	February 7, 8, 9, 14, 15, and 16
Chris McCardy	J.C.A. Drilling	February 20, 21, and 23
Bob Touhey	SCD	February 14, 16, 20, 21, and 23
Mike Apgar	Delaware DNREC	February 15 and 20
Bob Guarni	U.S. EPA	February 15
Bernice Pasquini	U.S. EPA	February 15

Monitoring well MW-1 was installed from February 7, 1990, to February 9, 1990. The well was drilled to a depth of 74.5 feet below the ground surface. The water table was reached at 36 feet below the ground surface, and clay was first encountered at a depth of 74 feet. The well screen was placed to a depth of 74.5 feet and consisted of a 10-foot section of 4-inch diameter stainless steel with a 0.020-inch slot size. The riser pipe consisted of 66.5 feet of 4-inch diameter carbon steel. A sandpack was placed up to 57 feet below the ground surface using 700 pounds of sand. A bentonite seal was placed by tremie on top of the sandpack using 30 - 35 gallons of bentonite slurry. Finally, grout was tremied on top of the bentonite seal using 100 gallons of a cement/bentonite (5%) mix. The following HNu and OVA readings were obtained from the following depths for well MW-1:

<u>Depth</u>	<u>HNU Reading</u>	<u>OVA Reading</u>
0 - 2 feet	-	1 ppm
3 - 5 feet	-	-
8 - 10 feet	-	0 ppm
13 - 15 feet	-	0 ppm
18 - 20 feet	-	0 ppm
23 - 25 feet	-	1 ppm
28 - 30 feet	-	0 ppm
33 - 35 feet	-	1 ppm
38 - 40 feet	-	1 ppm
43 - 45 feet	4 ppm	3 ppm
48 - 50 feet	5 ppm	4 ppm
53 - 55 feet	1 ppm	1 ppm
58 - 60 feet	2 ppm	3 ppm
63 - 65 feet	-	12 ppm
65 - 67 feet	4 ppm	12 ppm
67 - 69 feet	15 ppm	6 ppm
69 - 71 feet	60 ppm	60 ppm
71 - 73 feet	-	400-500 ppm
73 - 75 feet	100 ppm	>1000 ppm

During drilling, all cuttings were drummed, and the split-spoon sample with the highest HNU reading was collected for laboratory analysis. All drilling and sampling was conducted in Level D personal protection. The drilling rig and equipment were steam cleaned prior to and after well installation, and the split-spoon samplers were decontaminated with an Alconox-detergent wash, a tap water rinse, a methanol rinse, and a final DI water rinse.

In addition to drilling and monitoring well installation, well development was also performed between February 7 and 9, 1990. During this time, monitoring well MW-7 was developed by first blowing air into the well using an air compressor to clean the well screen. Then, the well was purged by pumping at a rate of approximately 1 gallon per minute. All of the purge water was placed in 55-gallon drums.

From February 14, 1990, through February 16, 1990, monitoring wells MW-3, MW-5, and MW-8 were developed, and well MW-11 was drilled. This monitoring well was drilled to a depth of 73 feet, including 10 feet into the clay layer. After drilling, an 8-inch carbon steel outer casing was installed to a depth of 73 feet, and it was pushed an additional 1 foot into the clay. A tremie pipe was inserted to a depth of 40 feet, and 35 gallons of grout was pumped into the hole. At this point, the RP contractor determined that

pipe must be extended further down the hole (i.e., to a depth of approximately 60 feet). The drillers attempted to use a smaller 1/2-inch tremie pipe, but it could only be inserted to a depth of 54 feet. After several additional attempts to insert the tremie pipe to a depth of 60 feet were unsuccessful, the casing was removed from the hole. The borehole was then reamed, and the casing was reinstalled on Monday, February 19, 1990.

Between February 14 and 16, 1990, water levels and total well depths were measured for several of the monitoring wells. The recorded levels and depths were as follows:

<u>Well</u>	<u>Depth to Water (feet)</u>	<u>Total Well Depth (feet)</u>	<u>Height of Well Casing (feet)</u>
MW-2	41.37	62.16	1.53
MW-3	43.82	64.06	2.47
MW-4	49.12	70.87	2.46
MW-6	46.64	70.16	2.84
MW-7	44.34	59.57	2.22
MW-8	37.52	53.68	1.63
MW-9	39.35	49.42	2.40

From February 20, 1990, through February 23, 1990, monitoring wells MW-1 and MW-9 were developed, and monitoring well MW-11 was re-drilled to a depth of 144 feet using the mud rotary drilling method. During drilling, the clay layer was encountered to a depth of 118 feet, and water was reached at a depth of approximately 135 feet. Continuous split-spoon samples were taken during drilling, and no HNu or OVA readings above background were obtained. All cuttings were drummed, and split-spoon samplers were decontaminated using an Alconox wash, water rinse, methanol rinse, and DI water rinse. The drill rig was decontaminated, and the outer carbon steel well casing was flushed with approximately 1,000 gallons of water prior to drilling.

3.0 PROBLEMS AND RESOLUTIONS

During the installation of well MW-11, the drill rig failed. This caused a delay of two days in drilling activities. To resolve this, the drilling subcontractor brought a new rig onsite. In addition, the drillers could not insert the tremie pipe to a sufficient depth for grouting the borehole after installation of the outer casing at well location MW-11. The problem was due to the minimal 1/2-inch clearance between the riser pipe fitting and the wall of the borehole. To resolve this problem, the casing was pulled, and the borehole was reamed. Subsequently, the outer casing was re-installed and drilling continued.

Due to the inability of the RP contractor to obtain access to the Air Products and Occidental properties for the purpose of installing three additional monitoring wells, further well drilling was postponed. This problem had not been resolved as of the end of the February 1990, and consequently, ground-water sampling will be delayed for at least two months.

4.0 FUTURE ACTIVITIES

During March, the RP contractor will collect fish samples. Additionally, the RP contractor will attempt to resolve the Air Products and Occidental property access problems, so that the three offsite monitoring wells can be installed. Ground-water sampling, which was originally scheduled for late February and early March, will be delayed until at least May 1990.

CDM FEDERAL PROGRAMS CORPORATION

March 1, 1990

Ms. Elaine Spiewak
TES VII Regional Project Officer
U.S. Environmental Protection Agency
CERCLA Enforcement Section
841 Chestnut Street, 6th floor
Philadelphia, PA 19107

PROJECT: EPA CONTRACT NO.: 68-W9-0004
DOCUMENT NO.: TES7-C03041-EP-BNLF
SUBJECT: Work Assignment C03041
January Monthly Report - RI/FS Oversight
Standard Chlorine Site
TES7-C03041-RT-BNLG-02

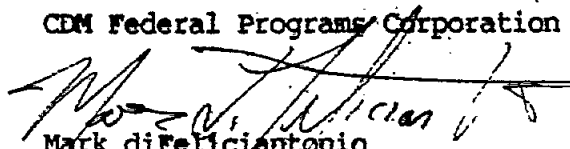
Dear Ms. Spiewak:

Please find enclosed the January Monthly Report - RI/FS Oversight for the Standard Chlorine Site, Delaware City, Delaware as partial fulfillment of the reporting requirements for this work assignment.

If you have any comments regarding this submittal, please contact me at (215) 293-0450 within two weeks of the date of this letter.

Sincerely,

CDM Federal Programs Corporation (FPC)


Mark diFeliciano
Regional Manager

MdF/slf

Enclosures

cc: Robert Guarni, EPA Work Assignment Manager, CERCLA Region III
Jean Wright, TES VII Zone Project Officer (letter only)
Constance V. Braun, FPC Program Manager
Robert Murphy, Versar Inc. (letter only)

JANUARY MONTHLY REPORT
RI/FS OVERSIGHT
STANDARD CHLORINE SITE

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460

Work Assignment No.	: C03041
EPA Region	: III
Site No.	: 3PH6
Contract No.	: 68-W9-0004
CDM Federal Programs	
Corporation Document No.	: TES7-C03041-RT-BNLG-02
Work Assignment Project Manager	: Kathryn Garris
Telephone Number	: (215) 293-0450
Primary Contact	: Robert Guarni
Telephone Number	: (215) 597-3164
Date Prepared	: March 1, 1975

AR300544

1.0 INTRODUCTION

CDM Federal Programs Corporation (FPC) received a work assignment (WA No. C03041) for continued enforcement support to the U.S. Environmental Protection Agency (EPA) Region III during a Remedial Investigation/Feasibility Study (RI/FS) at the Standard Chlorine of Delaware, Inc. (SCD) site located in Delaware City, Delaware. The TES VII Team Member is conducting oversight of field investigations performed by the RP and their contractor, Roy F. Weston, Inc., and their drilling subcontractor, James C. Anderson Drillers, and is accepting split samples.

Standard Chlorine of Delaware, Inc. manufactures chlorobenzenes on a 46-acre site in Delaware City, Delaware. In September 1981, about 5,000 gallons of monochlorobenzene spilled from a railroad car on the Standard Chlorine property. Subsequent sampling was performed and identified chlorobenzenes in onsite soils, in shallow ground water underlying the site, and in nearby Red Lion Creek. The RP and their contractor, Roy F. Weston, Inc., have studied this problem and have prepared reports on the extent of contamination, evaluated remedial alternatives and feasible technologies, and have begun recovery of contaminated ground water at the site. In September 1985, the SCD site was proposed by the EPA for the National Priorities List (NPL).

On January 5, 1986, onsite storage tanks ruptured and 562,000 gallons of paradichlorobenzene and trichlorobenzene were spilled onto the SCD property and into the adjacent wetlands. The RP engaged a remedial contractor and initiated clean-up activities within hours of the spill occurrence. The RP and the clean-up contractor prepared the ESD detailing emergency clean-up activities and ongoing remedial activities at the SCD site.

Standard Chlorine signed a consent order with the Delaware Department of Natural Resources and Environmental Control (DNREC) on January 22, 1988. As required in the consent order, they submitted a Phase I RI/FS work plan for approval by DNREC. The consent order was then amended so that a single site-wide RI/FS could be performed. A revised RI/FS work plan was then submitted to EPA and DNREC and was approved for the current activities at the SCD site.

AR300545

2.0 SUMMARY OF ACTIVITIES

The TES VII Team Member conducted oversight of the RP contractor's field investigations and accepted split samples from January 3, 1990, through January 31, 1990, at the SCD site located in Delaware City, Delaware. A summary of the field activities observed and the split samples accepted by the TES VII Team Member are presented in this section. Details of the daily activities performed at the site were recorded in the field notebook. Copies of the notebook are included as Attachment 1. Split samples were shipped and analyzed under the Contract Laboratory Program (CLP). Copies of CLP sample paperwork can be found in Attachment 2. Additionally, photographs were taken during oversight activities and are included as Attachment 3.

The following personnel were at the SCD site between January 3, 1990, and January 31, 1990:

<u>Personnel</u>	<u>Affiliation</u>	<u>Dates on Site</u>
Lorna Luebbe	TES VII Team	January 15, 16, 17, 23, 24, 25, 29, 30, and 31
David Spencer	TES VII Team	January 3, 4, 5, 9, 10, and 11
Jan Spohn	TES VII Team	January 3, 4, 5, 9, 10, 11, and 12
Dave Cairns	Weston	January 3, 4, 5, 9, 10, 11, 12, 15, 16, 17, 23, 24, 25, 30, and 31
Lyn Lawlor	Weston	January 3, 4, 5, 9, 10, 11, and 29
Dale Davis	Weston	January 3, 4, and 5
Kevin Hansen	Weston	January 30 and 31
Bob Touhey	SCD	January 16, 29, and 30
John Urban	James Anderson Drilling	January 9, 10, 11, 12, 15, 16, 17, 23, 24, 25, 30, and 31
Joe Jester	James Anderson Drilling	January 9, 10, 11, 12, 15, 16, 17, 23, 24, 25, 29, 30, and 31
Dave Borrel	James Anderson Drilling	January 9, 10, 11, 12, 15, 16, 17, 23, 24, 25, 29, 30, and 31
Surveyors	Lippincott	January 23, 24, 25, 29, 30, and 31

On January 3, the RP contractor completed wetlands screening by collecting samples at 4 additional grid points. Samples were obtained from three depths at each of the 4 grid locations: 0-1 foot, 1-2 feet, and 2-3 feet. Hand augers, stainless steel trowels, and/or scoopulas were used to obtain the samples. The samples were placed in jars; aluminum foil was placed over the openings; and the lids were securely fastened. After a minimum of 1 hour, a headspace reading was obtained from each jar using an OVA and an HNu. All samples were obtained with sampling personnel in level D protection.

From January 3, 1990, to January 5, 1990, the RP contractor completed sampling of the west (upstream) end of the wetlands. Samples were obtained from a depth of 0 to 6 inches below ground surface. Due to site conditions, some samples were actually collected from a depth of 0 to 12 inches below ground surface. During the week, 52 samples were collected by the RP contractor, including duplicates and blanks. The TES VII Team Member accepted the following split samples:

<u>TES VII</u> <u>Sample Number</u>	<u>RP Contractor</u> <u>Sample Number</u>	<u>Sample Location</u> <u>Description</u>
WS-1	SS-T-23-1-1	Wetlands sediment
WS-2	SS-T-23-1-1	Wetlands sediment
WS-3	SS-T-25-1-1	Wetlands sediment
WS-4	SS-T-39-1-1	Wetlands sediment
WS-5	SS-P-14-1-1	Wetlands sediment
WS-6	SS-R-17-1-1	Wetlands sediment
WS-7	SS-W-12-1-1	Wetlands sediment
EQB-2	SS-T-41-1-3	Equipment blank
TB-26	-----	Trip blank

From January 9, 1990, to January 10, 1990, the RP contractor completed soil borings around the catch basin and collected samples. All sampling and drilling were performed in level D protection. A Failing F-7 drilling rig was used to obtain split spoon samples every 2 feet from 0 to 20 feet at four different boring locations. For the first borehole, Weston bottled all samples to determine the zone (i.e., depth) of highest contamination with an HNu. For the remaining three boreholes, the sample from 0 to 10 feet with the highest HNu reading and the sample from 10 to 20 feet with the highest HNu reading were collected for analysis from each boring. For the first boring, the HNu readings ranged from 2 ppm to 300 ppm; the highest reading was obtained from a depth of 6 to 8 feet below the ground surface. For the second

AR300547

boring, the HNu readings ranged from 0 ppm to 270 ppm, and the highest reading was obtained from a depth of 12 to 14 feet below the ground surface. For the third boring, the HNu readings ranged from 2 ppm to 450 ppm, with the highest reading obtained from a depth of 12 to 14 feet below the ground surface. Finally, for the fourth boring, the HNu readings ranged from 3 ppm to 550 ppm; the highest reading was obtained from a depth of 18 to 20 feet below the ground surface. The drilling rig and all equipment were steam cleaned before activities began and after each boring. The split spoons were decontaminated using an Alconox detergent wash, a water rinse, a methanol rinse, and a final DI water rinse. All cuttings were placed on a plastic sheet and were subsequently placed into 55-gallon drums.

A total of 13 samples, including duplicates and blanks, were collected by the RP contractor for laboratory analysis. The TES VII Team Member accepted the following split samples:

<u>TES VII Sample Number</u>	<u>RP Contractor Sample Number</u>	<u>Sample Location Description</u>
CB-1	SB-3-7-1	Catch basin boring
CB-2	SB-4-5-1	Catch basin boring
EQB-3	SB-1-1-3	Equipment blank
TB-27	-----	Trip blank

From January 11, 1990, to January 31, 1990, the RP contractor installed 7 monitoring wells. A Failing F-7 drilling rig with hollow stem augers (6-inch inner diameter and 10-inch outer diameter) was used to drill the well borings. Split spoon samples were obtained every five feet, and the sample with the highest HNu reading from each well boring was collected for laboratory analysis. All drilling and sampling was performed in level D protection. The drilling rig and equipment were steam cleaned prior to initiating well installation and were also steam cleaned after the installation of each well. The split spoons were decontaminated with an Alconox detergent wash, a water rinse, a methanol rinse, and a final DI water rinse.

Monitoring well MW-9 was installed from January 11, 1990, to January 15, 1990. The well was drilled to a depth of 51 feet below the ground surface. The water table was reached at 36.5 feet below the ground surface, and clay was first encountered at a depth of 45 feet. The well screen was depth of 47 feet and consisted of a 10-foot section of 4-inch diam

stainless steel with a .020-inch slot size. The riser pipe consisted of 39 feet of 4-inch diameter stainless steel. A sandpack was placed up to 32 feet below the ground surface using 400 pounds of sand. A bentonite seal was placed on top of the sandpack using 30 gallons of bentonite slurry. Grout cement was placed on top of the bentonite seal using 40 gallons of cement grout mixed with 5 percent bentonite. The following HNu and OVA readings were obtained from the following depths for well MW-9:

<u>Depth</u>	<u>Hnu reading</u>	<u>OVA reading</u>
0-2 feet	0 ppm	0 ppm
5-7 feet	0 ppm	0 ppm
10-12 feet	0 ppm	0 ppm
15-17 feet	0 ppm	0 ppm
20-22 feet	0 ppm	0 ppm
25-27 feet	0 ppm	0 ppm
30-32 feet	0 ppm	0 ppm
35-37 feet	0 ppm	1 ppm
40-42 feet	5 ppm	2 ppm
45-47 feet	1 ppm	7 ppm
47-49 feet	0 ppm	0 ppm
49-51 feet	0 ppm	0 ppm

Monitoring well MW-7 was installed from January 16, 1990, to January 22, 1990. The well was drilled to a depth of 62 feet below the ground surface. The water table was reached at 41.6 feet below the ground surface, and clay was first encountered at a depth of 57 feet. The well screen was placed to a depth of 58 feet and consisted of a 10-foot section of 4-inch diameter stainless steel with a .020-inch slot size. The riser pipe consisted of 50 feet of 4-inch diameter stainless steel. A sandpack was placed up to 41.3 feet below the ground surface using 500 pounds of sand. A bentonite seal was placed by tremie on top of the sandpack up to 35 feet below the ground surface using 30 gallons of bentonite slurry. Grout cement was placed on top of the bentonite seal using 135 gallons of cement grout mixed with 5 percent bentonite.

The following HNu and OVA readings were obtained from the following depths for well MW-7:

<u>Depth</u>	<u>Hnu reading</u>	<u>OVA reading</u>
0-2 feet	0 ppm	0 ppm
5-7 feet	0 ppm	0 ppm
10-12 feet	0 ppm	0 ppm
15-17 feet	0 ppm	3 ppm
20-22 feet	0 ppm	4 ppm
25-27 feet	0 ppm	0 ppm
30-32 feet	0 ppm	2 ppm
35-37 feet	0 ppm	0 ppm
40-42 feet	0 ppm	1 ppm
45-47 feet	60 ppm	22 ppm
50-52 feet	30 ppm	30 ppm
52-54 feet	100 ppm	200 ppm
54-56 feet	100 ppm	250 ppm
56-58 feet	50 ppm	250 ppm
58-60 feet	50 ppm	100 ppm
60-62 feet	7 ppm	Not taken

Monitoring well MW-6 was installed from January 22, 1990, to January 23, 1990. The well was drilled to a depth of 68 feet below the ground surface. The water table was reached at 43 feet below the ground surface, and clay was first encountered at a depth of 65 feet. The well screen was placed to a depth of 67.5 feet and consisted of a 10-foot section of 4-inch diameter stainless steel with a .020-inch slot size. The riser pipe consisted of 59.5 feet of 4-inch diameter stainless steel. A sandpack was placed up to 50 feet below the ground surface using 500 pounds of sand. A bentonite seal was placed by tremie on top of the sandpack up to 45 feet below the ground surface using 30 gallons of bentonite slurry. Grout cement was placed on top of the bentonite seal by tremie using 40 gallons of cement grout mixed with 5 percent bentonite.

Monitoring well MW-8 was installed from January 24, 1990, to January 25, 1990. The well was drilled to a depth of 55 feet below the ground surface. The water table was reached at 36.5 feet below the ground surface, and clay was first encountered at a depth of 51 feet. The well screen was placed to a depth of 51 feet and consisted of a 10-foot section of 4-inch diameter stainless steel with a .020-inch slot size. The riser pipe consisted of 43 feet of 4-inch diameter stainless steel. A sandpack was placed up to 35 feet below the ground surface using 400 pounds of sand. A bentonite seal was placed by tremie on top of the sandpack up to 30 feet below the ground surface using 30 gallons of bentonite slurry. Grout cement was placed

bentonite seal by tremie using 120 gallons of cement grout mixed with 5 percent bentonite. The following HNu and OVA readings were obtained from the following depths for well MW-8:

<u>Depth</u>	<u>Hnu reading</u>	<u>OVA reading</u>
0-2 feet	0 ppm	0 ppm
8-10 feet	0 ppm	0 ppm
13-15 feet	0 ppm	0 ppm
18-20 feet	0 ppm	0 ppm
23-25 feet	0 ppm	1.5 ppm
28-30 feet	0 ppm	0 ppm
33-35 feet	0 ppm	1 ppm
38-40 feet	1 ppm	7 ppm
43-45 feet	0 ppm	6 ppm
45-47 feet	0 ppm	6 ppm
47-49 feet	0 ppm	8 ppm
49-51 feet	0 ppm	11 ppm
51-53 feet	0 ppm	9 ppm
53-55 feet	0 ppm	8 ppm

Monitoring well MW-2 was installed from January 26, 1990, to January 29, 1990. The well was drilled to a depth of 65 feet below the ground surface. The well screen was placed to a depth of 64 feet and consisted of a 10-foot section of 4-inch diameter stainless steel with a .020-inch slot size. The riser pipe consisted of 56 feet of 4-inch diameter stainless steel. A sandpack was placed up to 49 feet below the ground surface using 400 pounds of sand. A bentonite seal was placed by tremie on top of the sandpack up to 44 feet below the ground surface using 30 gallons of bentonite slurry. Grout cement was placed by tremie on top of the bentonite seal using 170 gallons of cement grout mixed with 5 percent bentonite.

Monitoring well MW-3 was installed from January 29, 1990, to January 31, 1990. The well was drilled to a depth of 67 feet below the ground surface. The water table was reached at 41 feet below the ground surface, and clay was first encountered at a depth of 65 feet. The well screen was placed to a depth of 63 feet and consisted of a 10-foot section of 4-inch diameter stainless steel with a .020-inch slot size. The riser pipe consisted of 55 feet of 4-inch diameter stainless steel. A sandpack was placed up to 48 feet below the ground surface using 400 pounds of sand. A bentonite seal was placed by tremie on top of the sandpack up to 44 feet below the ground surface using 30 gallons of bentonite slurry. Grout cement was placed o

bentonite seal using 100 gallons of cement grout mixed with 5 percent bentonite. The following HNu and OVA readings were obtained from the following depths for well MW-7:

<u>Depth</u>	<u>Hnu reading</u>	<u>OVA reading</u>
0-2 feet	0 ppm	0 ppm
8-10 feet	0 ppm	0 ppm
13-15 feet	0 ppm	0 ppm
18-20 feet	0 ppm	0 ppm
23-25 feet	0 ppm	0 ppm
28-30 feet	0 ppm	0 ppm
33-35 feet	0 ppm	1 ppm
38-40 feet	0 ppm	0 ppm
43-45 feet	0 ppm	150 ppm
48-50 feet	0 ppm	250 ppm
53-55 feet	0 ppm	80 ppm
58-60 feet	0 ppm	40 ppm
63-65 feet	No recovery	No recovery

3.0 PROBLEMS AND RESOLUTIONS

During the soil boring sample collection, which took place January 9, 1990, through January 10, 1990, the split spoon sampler did not yield sufficient soil to fill the sample bottle when the TES VII Team Member obtained a split sample. To resolve this problem, composite samples were collected at the locations where the TES VII Team Member received split samples.

During monitoring well installation, the RP contractor experienced difficulty avoiding bridging when the bentonite seal was placed down borehole. This problem was due to the minimal 1/2 inch space between the riser pipe fitting and the auger. To resolve the problem on well MW-9, the augers were pulled before the bentonite seal was placed down the borehole. For the remaining wells, the RP contractor cut the fittings off of the riser pipe and welded sections of pipe together, so that a 1/2-inch diameter PVC tremie pipe could be used to place the seal and grout.

During the installation of well MW-9, the casing was lifted three feet when the augers were removed from the borehole. To resolve this problem, the screen and riser were removed, and the hole was redrilled.

The tremie pipe was not steam cleaned before the sealing and grouting of well MW-3. This was mentioned to the RP contractor, and the tremie pipe was steam cleaned prior to sealing and grouting the remaining wells.

4.0 FUTURE ACTIVITIES

During February, the RP contractor plans to finish monitoring well installation by adding two more wells. Following this activity, which is scheduled to be completed in two weeks, well development will be completed and will be followed by ground-water sampling in late February or early March. Fish samples will also be collected in early March.

CDM Federal Programs Corporation

January 18, 1990

Elaine Spiewak

TES VII Regional Project Officer
U. S. Environmental Protection Agency
CERCLA Enforcement Section
841 Chestnut Street, 6th floor
Philadelphia, PA 19107

PROJECT: EPA CONTRACT NO.: 68-W9-0004

DOCUMENT NO.: TES7-C03041-EP-BMDN

SUBJECT: Oversight Report for Work Assignment C03041
Activities for the Month of December 1989 .
Standard Chlorine of Delaware Site
TES7-C03041-RT-BMDP-02

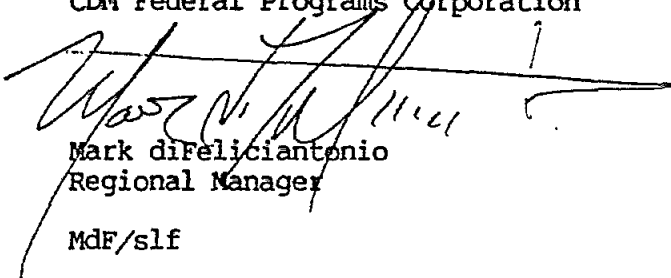
Dear Ms. Spiewak:

Please find enclosed the Oversight Report for Activities for the Month of December, 1989 at the Standard Chlorine of Delaware Site, as partial fulfillment of the reporting requirements for this work assignment.

If you have any comments regarding this submittal, please contact me at (215) 293-0450 within two weeks of the date of this letter.

Sincerely,

CDM Federal Programs Corporation



Mark diFelicianantonio
Regional Manager

MdF/slf

Enclosure

cc: ~~Robert Braun~~, EPA Primary Contact, CERCLA Region III
Jean Wright, EPA TES VII Project Officer (letter only)
Joseph J. Tarantino, CDM Federal Programs Corporation
Constance V. Braun, CDM Federal Programs Corporation Program Manager
Robert Murphy, Versar Inc. (letter only)

OVERSIGHT REPORT
ACTIVITIES
FOR THE MONTH OF DECEMBER 1989
AT THE
STANDARD CHLORINE OF DELAWARE SITE

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460

Work Assignment No.	: C03041
EPA Region	: III
Site No.	: 3PH6
Contract No.	: 68-W9-0004
CDM Federal Programs	
Corporation Document No.	: TES7-C03041-RT-BMDP-02
Work Assignment Manager	: Kathy Garris
Telephone Number	: (215) 293-0450
Primary Contact	: Robert Guarni
Telephone Number	: (215) 597-3164
Date Prepared	: January 18, 1990

AR300556

1.0 INTRODUCTION

CDM Federal Programs Corporation (FPC) received a work assignment (WA No. C03041) for continued enforcement support to the U.S. Environmental Protection Agency (EPA) Region III during a Remedial Investigation/Feasibility Study (RI/FS) at the Standard Chlorine of Delaware, Inc. (SCD) site located in Delaware City, Delaware. The TES VII Team is conducting oversight of field investigations performed by the RP and their contractor, Roy F. Weston, Inc., and accepting split samples.

Standard Chlorine of Delaware, Inc. manufactures chlorobenzenes on a 46-acre site in Delaware City, Delaware. In September 1981, about 5,000 gallons of monochlorobenzene spilled from a railroad car on the Standard Chlorine property. Subsequent sampling was performed and identified chlorobenzenes in onsite soils, in shallow ground water underlying the site, and in nearby Red Lion Creek. The RP and their contractor, Roy F. Weston, Inc., have studied this problem and have prepared reports on the extent of contamination, evaluated remedial alternatives and feasible technologies, and have begun recovery of contaminated ground water at the site. In September 1985, the SCD site was proposed by the EPA for the National Priorities List (NPL).

On January 5, 1986, onsite storage tanks ruptured and 562,000 gallons of paradichlorobenzene and trichlorobenzene were spilled onto the SCD property and into the adjacent wetlands. The RP engaged a remedial contractor and initiated clean-up activities within hours of the spill occurrence. The RP and the clean-up contractor prepared the ESD detailing emergency clean-up activities and ongoing remedial activities at the SCD site.

Standard Chlorine signed a consent order with the Delaware Department of Natural Resources and Environmental Control (DNREC) on January 22, 1988. As required in the consent order, they submitted a Phase I RI/FS work plan for approval by DNREC. The consent order was then amended so that a single site-wide RI/FS could be performed. A revised RI/FS work plan was then submitted to EPA and DNREC and was approved for the current activities at the SCD site.

2.0 SUMMARY OF ACTIVITIES

The TES VII team conducted oversight of the RP contractor's field investigations and accepted split samples from December 1, 1989 through December 31, 1989, at the SCD site located in Delaware City, Delaware. A summary of the field activities observed and the split samples accepted by the TES VII team are presented in this section. Details of the daily activities performed at the site were recorded in the field notebook. Copies of the notebook are included as Attachment 1. Split samples were shipped and analyzed under the Contract Laboratory Program (CLP). Copies of CLP sample paperwork can be found in Attachment 2. Additionally, a limited number of photographs were taken during site activities and are included as Attachment 3.

The following personnel were at the site between December 1 and 31, 1989:

<u>Personnel</u>	<u>Affiliation</u>	<u>Dates on Site</u>
Lorna Luebbe	TES VII Team	Dec. 1 Dec. 4 thru Dec. 8
David Spencer	TES VII Team	Dec. 4 thru Dec. 8 Dec. 11 thru Dec. 14
Russ Meier	TES VII Team	Dec. 11 thru Dec. 14 Dec. 18, 19, 28, 29
Dave Cairns	Weston	Dec. 1 Dec. 4 thru Dec. 8 Dec. 11 thru Dec. 14 Dec. 19, 28, 29
Lyn Lawlor	Weston	Dec. 1 Dec. 4 thru Dec. 8 Dec. 11 thru Dec. 14 Dec. 18, 19, 28, 29
Dale Davis	Weston	Dec. 12
Tom Drew	Weston	Dec. 12
Ray Scheinfeld	Weston	Dec. 5
Bob Touhey	SCD	Dec. 4, 6, 7, 13, 14, 18
Bob Guarni	EPA	Dec. 7, 18
Diane Wehner	DNREC	Dec. 5, 7, 18
Surveyors	Lippincott	Dec. 4 thru 8 Dec. 11 thru 14

On December 1, the RP contractor marked the spill pathways sample locations. During the week of December 4 to December 8, the RP contractor began sampling activities along the 1981 and 1986 spill pathways, completed surface water and sediment sampling in the unnamed tributary to 1

AR300558

Creek, completed sedimentation basin monitoring zone sampling, set up the grid for wetlands sediment screening, and marked monitoring well locations.

The spill pathway samples were obtained from two depths, 0-6" and 12"-18", as called for in the QA Plan. During the week of December 4, a total of 21 locations were sampled along the spill pathway. All samples were collected using a hand auger and/or a stainless steel trowel. Sampling equipment was properly decontaminated and wrapped in foil prior to the sampling events as specified in the QA Plan.

The completion of sampling the unnamed tributary consisted of the collection of five sediment and two surface water samples, including duplicates of each media. Sediment samples were collected using stainless steel trowels, and surface water samples were collected by either directly filling the container from the stream or by pouring from a single container into the remaining containers. Sampling equipment was properly decontaminated prior to sampling.

After several failed attempts, as noted in the November Monthly Report, the RP contractor was successful in sampling the sedimentation basin monitoring zone. A stainless steel, top-loading bailer, properly decontaminated prior to use, was utilized to obtain a single aqueous sample. Due to a concern over lack of water in the zone by the RP contractor, sample bottleware was not filled in an alternating fashion. VOA's from all three concerns, SCD, Weston, and the TES VII team member were filled first. The remaining bottleware was filled in the following order: SCD, Weston, and the TES VII team. Ample volume was obtained from the zone to fill all bottleware.

Surveyors began setting up a grid in the wetlands for sediment screening proposed for the week of December 18. The RP contractor also placed stakes at the locations where monitor wells will be installed in January, 1990.

During the week, 53 samples were collected by the RP contractor, including duplicates and blanks. The TES VII team member accepted the following split samples:

TES VII
Sample Number

RP Contractor
Sample Number

Sample Location
Description

SWB-7 & SWB-7F

BZ-1-0-1

Sedimentation Basin
Monitoring Zone

1,2,3 Tri 1600
1,2,4 1200
1,2,5 tetra 1700
1,2,6 1800
1,2,7 1900
1,2,8 2000
1,2,9 2100
1,2,10 2200
1,2,11 2300
1,2,12 2400
1,2,13 2500
1,2,14 2600
1,2,15 2700
1,2,16 2800
1,2,17 2900
1,2,18 3000
1,2,19 3100
1,2,20 3200
1,2,21 3300
1,2,22 3400
1,2,23 3500
1,2,24 3600
1,2,25 3700
1,2,26 3800
1,2,27 3900
1,2,28 4000
1,2,29 4100
1,2,30 4200
1,2,31 4300
1,2,32 4400
1,2,33 4500
1,2,34 4600
1,2,35 4700
1,2,36 4800
1,2,37 4900
1,2,38 5000
1,2,39 5100
1,2,40 5200
1,2,41 5300
1,2,42 5400
1,2,43 5500
1,2,44 5600
1,2,45 5700
1,2,46 5800
1,2,47 5900
1,2,48 6000
1,2,49 6100
1,2,50 6200
1,2,51 6300
1,2,52 6400
1,2,53 6500
1,2,54 6600
1,2,55 6700
1,2,56 6800
1,2,57 6900
1,2,58 7000
1,2,59 7100
1,2,60 7200
1,2,61 7300
1,2,62 7400
1,2,63 7500
1,2,64 7600
1,2,65 7700
1,2,66 7800
1,2,67 7900
1,2,68 8000
1,2,69 8100
1,2,70 8200
1,2,71 8300
1,2,72 8400
1,2,73 8500
1,2,74 8600
1,2,75 8700
1,2,76 8800
1,2,77 8900
1,2,78 9000
1,2,79 9100
1,2,80 9200
1,2,81 9300
1,2,82 9400
1,2,83 9500
1,2,84 9600
1,2,85 9700
1,2,86 9800
1,2,87 9900
1,2,88 10000
1,2,89 10100
1,2,90 10200
1,2,91 10300
1,2,92 10400
1,2,93 10500
1,2,94 10600
1,2,95 10700
1,2,96 10800
1,2,97 10900
1,2,98 11000
1,2,99 11100
1,2,100 11200
1,2,101 11300
1,2,102 11400
1,2,103 11500
1,2,104 11600
1,2,105 11700
1,2,106 11800
1,2,107 11900
1,2,108 12000
1,2,109 12100
1,2,110 12200
1,2,111 12300
1,2,112 12400
1,2,113 12500
1,2,114 12600
1,2,115 12700
1,2,116 12800
1,2,117 12900
1,2,118 13000
1,2,119 13100
1,2,120 13200
1,2,121 13300
1,2,122 13400
1,2,123 13500
1,2,124 13600
1,2,125 13700
1,2,126 13800
1,2,127 13900
1,2,128 14000
1,2,129 14100
1,2,130 14200
1,2,131 14300
1,2,132 14400
1,2,133 14500
1,2,134 14600
1,2,135 14700
1,2,136 14800
1,2,137 14900
1,2,138 15000
1,2,139 15100
1,2,140 15200
1,2,141 15300
1,2,142 15400
1,2,143 15500
1,2,144 15600
1,2,145 15700
1,2,146 15800
1,2,147 15900
1,2,148 16000
1,2,149 16100
1,2,150 16200
1,2,151 16300
1,2,152 16400
1,2,153 16500
1,2,154 16600
1,2,155 16700
1,2,156 16800
1,2,157 16900
1,2,158 17000
1,2,159 17100
1,2,160 17200
1,2,161 17300
1,2,162 17400
1,2,163 17500
1,2,164 17600
1,2,165 17700
1,2,166 17800
1,2,167 17900
1,2,168 18000
1,2,169 18100
1,2,170 18200
1,2,171 18300
1,2,172 18400
1,2,173 18500
1,2,174 18600
1,2,175 18700
1,2,176 18800
1,2,177 18900
1,2,178 19000
1,2,179 19100
1,2,180 19200
1,2,181 19300
1,2,182 19400
1,2,183 19500
1,2,184 19600
1,2,185 19700
1,2,186 19800
1,2,187 19900
1,2,188 20000
1,2,189 20100
1,2,190 20200
1,2,191 20300
1,2,192 20400
1,2,193 20500
1,2,194 20600
1,2,195 20700
1,2,196 20800
1,2,197 20900
1,2,198 21000
1,2,199 21100
1,2,200 21200
1,2,201 21300
1,2,202 21400
1,2,203 21500
1,2,204 21600
1,2,205 21700
1,2,206 21800
1,2,207 21900
1,2,208 22000
1,2,209 22100
1,2,210 22200
1,2,211 22300
1,2,212 22400
1,2,213 22500
1,2,214 22600
1,2,215 22700
1,2,216 22800
1,2,217 22900
1,2,218 23000
1,2,219 23100
1,2,220 23200
1,2,221 23300
1,2,222 23400
1,2,223 23500
1,2,224 23600
1,2,225 23700
1,2,226 23800
1,2,227 23900
1,2,228 24000
1,2,229 24100
1,2,230 24200
1,2,231 24300
1,2,232 24400
1,2,233 24500
1,2,234 24600
1,2,235 24700
1,2,236 24800
1,2,237 24900
1,2,238 25000
1,2,239 25100
1,2,240 25200
1,2,241 25300
1,2,242 25400
1,2,243 25500
1,2,244 25600
1,2,245 25700
1,2,246 25800
1,2,247 25900
1,2,248 26000
1,2,249 26100
1,2,250 26200
1,2,251 26300
1,2,252 26400
1,2,253 26500
1,2,254 26600
1,2,255 26700
1,2,256 26800
1,2,257 26900
1,2,258 27000
1,2,259 27100
1,2,260 27200
1,2,261 27300
1,2,262 27400
1,2,263 27500
1,2,264 27600
1,2,265 27700
1,2,266 27800
1,2,267 27900
1,2,268 28000
1,2,269 28100
1,2,270 28200
1,2,271 28300
1,2,272 28400
1,2,273 28500
1,2,274 28600
1,2,275 28700
1,2,276 28800
1,2,277 28900
1,2,278 29000
1,2,279 29100
1,2,280 29200
1,2,281 29300
1,2,282 29400
1,2,283 29500
1,2,284 29600
1,2,285 29700
1,2,286 29800
1,2,287 29900
1,2,288 30000
1,2,289 30100
1,2,290 30200
1,2,291 30300
1,2,292 30400
1,2,293 30500
1,2,294 30600
1,2,295 30700
1,2,296 30800
1,2,297 30900
1,2,298 31000
1,2,299 31100
1,2,300 31200
1,2,301 31300
1,2,302 31400
1,2,303 31500
1,2,304 31600
1,2,305 31700
1,2,306 31800
1,2,307 31900
1,2,308 32000
1,2,309 32100
1,2,310 32200
1,2,311 32300
1,2,312 32400
1,2,313 32500
1,2,314 32600
1,2,315 32700
1,2,316 32800
1,2,317 32900
1,2,318 33000
1,2,319 33100
1,2,320 33200
1,2,321 33300
1,2,322 33400
1,2,323 33500
1,2,324 33600
1,2,325 33700
1,2,326 33800
1,2,327 33900
1,2,328 34000
1,2,329 34100
1,2,330 34200
1,2,331 34300
1,2,332 34400
1,2,333 34500
1,2,334 34600
1,2,335 34700
1,2,336 34800
1,2,337 34900
1,2,338 35000
1,2,339 35100
1,2,340 35200
1,2,341 35300
1,2,342 35400
1,2,343 35500
1,2,344 35600
1,2,345 35700
1,2,346 35800
1,2,347 35900
1,2,348 36000
1,2,349 36100
1,2,350 36200
1,2,351 36300
1,2,352 36400
1,2,353 36500
1,2,354 36600
1,2,355 36700
1,2,356 36800
1,2,357 36900
1,2,358 37000
1,2,359 37100
1,2,360 37200
1,2,361 37300
1,2,362 37400
1,2,363 37500
1,2,364 37600
1,2,365 37700
1,2,366 37800
1,2,367 37900
1,2,368 38000
1,2,369 38100
1,2,370 38200
1,2,371 38300
1,2,372 38400
1,2,373 38500
1,2,374 38600
1,2,375 38700
1,2,376 38800
1,2,377 38900
1,2,378 39000
1,2,379 39100
1,2,380 39200
1,2,381 39300
1,2,382 39400
1,2,383 39500
1,2,384 39600
1,2,385 39700
1,2,386 39800
1,2,387 39900
1,2,388 40000
1,2,389 40100
1,2,390 40200
1,2,391 40300
1,2,392 40400
1,2,393 40500
1,2,394 40600
1,2,395 40700
1,2,396 40800
1,2,397 40900
1,2,398 41000
1,2,399 41100
1,2,400 41200
1,2,401 41300
1,2,402 41400
1,2,403 41500
1,2,404 41600
1,2,405 41700
1,2,406 41800
1,2,407 41900
1,2,408 42000
1,2,409 42100
1,2,410 42200
1,2,411 42300
1,2,412 42400
1,2,413 42500
1,2,414 42600
1,2,415 42700
1,2,416 42800
1,2,417 42900
1,2,418 43000
1,2,419 43100
1,2,420 43200
1,2,421 43300
1,2,422 43400
1,2,423 43500
1,2,424 43600
1,2,425 43700
1,2,426 43800
1,2,427 43900
1,2,428 44000
1,2,429 44100
1,2,430 44200
1,2,431 44300
1,2,432 44400
1,2,433 44500
1,2,434 44600
1,2,435 44700
1,2,436 44800
1,2,437 44900
1,2,438 45000
1,2,439 45100
1,2,440 45200
1,2,441 45300
1,2,442 45400
1,2,443 45500
1,2,444 45600
1,2,445 45700
1,2,446 45800
1,2,447 45900
1,2,448 46000
1,2,449 46100
1,2,450 46200
1,2,451 46300
1,2,452 46400
1,2,453 46500
1,2,454 46600
1,2,455 46700
1,2,456 46800
1,2,457 46900
1,2,458 47000
1,2,459 47100
1,2,460 47200
1,2,461 47300
1,2,462 47400
1,2,463 47500
1,2,464 47600
1,2,465 47700
1,2,466 47800
1,2,467 47900
1,2,468 48000
1,2,469 48100
1,2,470 48200
1,2,471 48300
1,2,472 48400
1,2,473 48500
1,2,474 48600
1,2,475 48700
1,2,476 48800
1,2,477 48900
1,2,478 49000
1,2,479 49100
1,2,480 49200
1,2,481 49300
1,2,482 49400
1,2,483 49500
1,2,484 49600
1,2,485 49700
1,2,486 49800
1,2,487 49900
1,2,488 50000
1,2,489 50100
1,2,490 50200
1,2,491 50300
1,2,492 50400
1,2,493 50500
1,2,494 50600
1,2,495 50700
1,2,496 50800
1,2,497 50900
1,2,498 51000
1,2,499 51100
1,2,500 51200
1,2,501 51300
1,2,502 51400
1,2,503 51500
1,2,504 51600
1,2,505 51700
1,2,506 51800
1,2,507 51900
1,2,508 52000
1,2,509 52100
1,2,510 52200
1,2,511 52300
1,2,512 52400
1,2,513 52500
1,2,514 52600
1,2,515 52700
1,2,516 52800
1,2,517 52900
1,2,518 53000
1,2,519 53100
1,2,520 53200
1,2,521 53300
1,2,522 53400
1,2,523 53500
1,2,524 53600
1,2,525 53700
1,2,526 53800
1,2,527 53900
1,2,528 54000
1,2,529 54100
1,2,530 54200
1,2,531 54300
1,2,532 54400
1,2,533 54500
1,2,534 54600
1,2,535 54700
1,2,536 54800
1,2,537 54900
1,2,538 55000
1,2,539 55100
1,2,540 55200
1,2,541 55300
1,2,542 55400
1,2,543 55500
1,2,544 55600
1,2,545 55700
1,2,546 55800
1,2,547 55900
1,2,548 56000
1,2,549 56100
1,2,550 56200
1,2,551 56300
1,2,552 56400
1,2,553 56500
1,2,554 56600
1,2,555 56700
1,2,556 56800
1,2,557 56900
1,2,558 57000
1,2,559 57100
1,2,560 57200
1,2,561 57300
1,2,562 57400
1,2,563 57500
1,2,564 57600
1,2,565 57700
1,2,566 57800
1,2,567 57900
1,2,568 58000
1,2,569 58100
1,2,570 58200
1,2,571 58300
1,2,572 58400
1,2,573 58500
1,2,574 58600
1,2,575 58700
1,2,576 58800
1,2,577 58900
1,2,578 59000
1,2,579 59100
1,2,580 59200
1,2,581 59300
1,2,582 59400
1,2,583 59500
1,2,584 59600
1,2,585 59700
1,2,586 59800
1,2,587 59900
1,2,588 60000
1,2,589 60100
1,2,590 60200
1,2,591 60300
1,2,592 60400
1,2,593 60500
1,2,594 60600
1,2,595 60700
1,2,596 60800
1,2,597 60900
1,2,598 61000
1,2,599 61100
1,2,600 61200
1,2,601 61300
1,2,602 61400
1,2,603 61500
1,2,604 61600
1,2,605 61700
1,2,606 61800
1,2,607 61900
1,2,608 62000
1,2,609 62100
1,2,610 62200
1,2,611 62300
1,2,612 62400
1,2,613 62500
1,2,614 62600
1,2,615 62700
1,2,616 62800
1,2,617 62900
1,2,618 63000
1,2,619 63100
1,2,620 63200
1,2,621 63300
1,2,622 63400
1,2,623 63500
1,2,624 63600
1,2,625 63700
1,2,626 63800
1,2,627 63900
1,2,628 64000
1,2,629 64100
1,2,630 64200
1,2,631 64300
1,2,632 64400
1,2,633 64500
1,2,634 64600
1,2,635 64700
1,2,636 64800
1,2,637 64900
1,2,638 65000
1,2,639 65100
1,2,640 65200
1,2,641 65300
1,2,642 65400
1,2,643 65500
1,2,644 65600
1,2,645 65700
1,2,646 65800
1,2,647 65900
1,2,648 66000
1,2,649 66100
1,2,650 66200
1,2,651 66300
1,2,652 66400
1,2,653 66500
1,2,654 66600
1,2,655 66700
1,2,656 66800
1,2,657 66900
1,2,658 67000
1,2,659 67100
1,2,660 67200
1,2,661 67300
1,2,662 67400
1,2,663 67500
1,2,664 67600
1,2,665 67700
1,2,666 67800
1,2,667 67900
1,2,668 68000
1,2,669 68100
1,2,670 68200
1,2,671 68300
1,2,672 68400
1,2,673 68500
1,2,674 68600
1,2,675 68700
1,2,676 68800
1,2,677 68900
1,2,678 69000
1,2,679 69100
1,2,680 69200
1,2,681 69300
1,2,682 69400
1,2,683 69500
1,2,684 69600
1,2,685 69700
1,2,686 69800
1,2,687 69900
1,2,688 70000
1,2,689 70100
1,2,690 70200
1,2,691 70300
1,2,692 70400
1,2,693 70500
1,2,694 70600
1,2,695 70700
1,2,696 70800
1,2,697 70900
1,2,698 71000
1,2,699 71100
1,2,700 71200
1,2,701 71300
1,2,702 71400
1,2,703 71500
1,2,704 71600
1,2,705 71700
1,2,706 71800
1,2,707 71900
1,2,708 72000
1,2,709 72100
1,2,710 72200
1,2,711 72300
1,2,712 72400
1,2,713 72500
1,2,714 72600
1,2,715 72700
1,2,716 72800
1,2,717 72900
1,2,718 73000
1,2,719 73100
1,2,720 73200
1,2,721 73300
1,2,722 73400
1,2,723 73500
1,2,724 73600
1,2,725 73700
1,2,726 73800
1,2,727 73900
1,2,728 74000
1,2,729 74100
1,2,730 74200
1,2,731 74300
1,2,732 74400
1,2,733 74500
1,2,734 74600
1,2,735 74700
1,2,736 74800
1,2,737 74900
1,2,738 75000
1,2,739 75100
1,2,740 75200
1,2,741 75300
1,2,742 75400
1,2,743 75500
1,2,744 75600
1,2,745 75700
1,2,746 75800
1,2,747 75900
1,2,748 76000
1,2,749 76100
1,2,750 76200
1,2,751 76300
1,2,752 76400
1,2,753 76500
1,2,754 76600
1,2,755 76700
1,2,756 76800
1,2,757 76900
1,2,758 77000
1,2,759 77100
1,2,760 77200
1,2,761 77300
1,2,762 77400
1,2,763 77500
1,2,764 77600
1,2,765 77700
1,2,766 77800
1,2,767 77900
1,2,768 78000
1,2,769 78100
1,2,770 78200
1,2,771 78300
1,2,772 78400
1,2,773 78500
1,2,774 78600
1,2,775 78700
1,2,776 78800
1,2,777 78900
1,2,778 79000
1,2,779 79100
1,2,780 79200
1,2,781 79300
1,2

1213
124
12345
510
820
430
310

DP-1	SS-3-1-1	Spill Pathway
DP-2	SS-8-2-1	Spill Pathway
DP-3	SS-13-1-1	Spill Pathway
DP-4	SS-16-2-1	Spill Pathway
DP-5	SS-17-2-1	Spill Pathway
EQB-1	SS-6-1-3	Equipment Blank (Soils)
TB-21	N/A	Trip Blank
TB-22	N/A	Trip Blank

OVA readings taken by the RP contractor during sampling of the spill pathways ranged from 0 to 500 ppm above background in the auger holes. Only on one occasion did the readings exceed background levels. Samples collected at this location, SS-15, were obtained in level C protection. The remaining samples collected during the week were obtained in level D protection.

During the week of December 11 to December 14, spill pathway sampling was completed. A total of 39 samples, including duplicates, were collected from 19 locations. Samples were obtained from two depths at most locations, with the exception being the eastern ditch. The presence of water in the ditch prevented the collection of the deeper sample at four locations. In addition, at one location along the 1986 spill pathway, SS-39, the deeper sample could not be obtained due to railroad bed ballast. The RP contractor stated that an attempt (to obtain these samples) may be made at some future time. Samples were collected using a hand auger and/or a stainless steel trowel. All sampling equipment was properly decontaminated prior to the sampling events. The TES VII team accepted the following split samples:

<u>TES VII Sample #</u>	<u>RP Contractor Sample No.</u>	<u>Sample location/description</u>
DP-6	SS-23-2-1	Spill pathway
DP-7	SS-27-1-1	Spill pathway
DP-8	SS-29-2-1	Spill pathway
DP-9	SS-33-2-1	Spill pathway
DP-10	SS-38-1-1	Spill pathway
DP-11	Dup. of DP-10	Spill pathway
TB-23	N/A	Trip blank
TB-24	N/A	Trip blank
TB-25	N/A	Trip blank

No OVA readings above background were recorded in the breathing zone during sampling activities. OVA readings ranged from 0 to 600 ppm in auger

holes. All samples were collected in accordance with the approved QA Plan in level D protection.

In addition to sampling activities, the RP contractor monitored the progress of the surveyors. By the end of the week, the grid had been completed and wetlands sediment screening was scheduled to be performed beginning on December 18, 1989.

During the weeks of December 18 and December 25, 1989, wetlands screening was completed. No work was performed on December 25 and 26 due to the Christmas holiday. At the request of the EPA primary contact, the TES VII team member was onsite four days during this two week period to perform oversight. No split samples were collected during this time.

Approximately 450 screening samples were collected from the wetlands, compared to the 600 to 750 estimated in the QA Plan. The variation was due to an overestimation of the size of the wetlands. Samples were obtained from three depths at each of the 150 grid locations: 0-1 foot, 1-2 feet, and 2-3 feet. Hand augers, stainless steel trowels, and/or scoopulas were used to obtain the samples. The samples were placed in jars, aluminum foil was placed over the openings, and the lids securely fastened. After a minimum of 1 hour, a headspace reading was obtained from each jar using an OVA and an HNu. All samples were obtained with sampling personnel in level D protection.

On December 18, 1989, the EPA primary contact requested that the TES VII team include with this report a listing of the number of samples taken by the RP contractor with respect to the number proposed in the Work Plan. The list is as follows:

<u>Location</u>	<u>Number Proposed</u>	<u>Number Obtained</u>
1981 & 1986 Spill Pathways	88	75
Soil Piles	3	3
Soil Pile Drainage Area	20	20
Wetland Screening Locations	200 to 250	150
Red Lion Creek Sediment	15	15
Red Lion Creek Surface Water	7	7
Tributary Surface Water	3	3
Sedimentation Basin Sediment	1	1
Sedimentation Basin Monitoring Zone	1	1

3.0 PROBLEMS AND RESOLUTIONS

The SAS request for the higher chlorinated benzenes (tri through hexachloro) and nitrobenzenes was not filled during this month. As a result, samples for this analysis continued to be sent to Versar through a RCRA assignment. A new SAS request was submitted for samples scheduled to be obtained in January.

The RP contractor was successful in obtaining a sample from the sedimentation monitoring zone through the use of a top-loading bailer. This resolved a problem that carried over from November. Samples were collected for both total and dissolved metal analysis. The RP contractor later informed the TES VII team member that only the dissolved metal sample would be analyzed. The TES VII team member contacted CRL and cancelled analysis for the total metals sample.

A spill of an unknown quantity of a compound stated to be calcium carbonate was reported during the week of November 27, 1989. Workers from Standard Chlorine were observed excavating material from the eastern ditch, which is included in the 1986 spill pathway. This area was sampled the week of December 11, 1989.

Fewer than the proposed number of samples were obtained from the drainage pathways. Several factors were responsible for this variation. Lower depth samples could not be obtained from four locations in the eastern ditch due to the presence of water and from one location along the 1986 spill pathway due to railroad ballast in excess of 2 feet in depth. Also, the drainage pathways were shorter than anticipated. Sample points were determined as specified in the QA Plan.

For the wetlands sediment screening, 150 points were screened compared to the 200 to 250 points estimated in the QA Plan. This variance was due to an overestimation of the size of the wetlands. After the laying of the grid, three samples were obtained from each grid point, as specified in the QA Plan. The screening of fewer locations will have no effect on the proposed number of samples to be obtained for laboratory analysis. Fifty samples will be collected as stated in the QA Plan.

4.0 FUTURE ACTIVITIES

During January, the RP contractor plans to conduct wetlands sediment sampling. Following this activity, which is scheduled to be completed in one week, the RP contractor will complete soil borings around the catch basin. The drill rig used for this activity will then proceed to the previously marked locations for monitoring well installation. The installation is scheduled to take the remainder of the month and will be followed by ground-water sampling in late February.

AR300563

CDM Federal Programs Corporation

December 19, 1989

Elaine Spiewak
TES VII Regional Project Officer
U. S. Environmental Protection Agency
CERCLA Enforcement Section
841 Chestnut Street, 6th floor
Philadelphia, PA 19107

PROJECT: EPA CONTRACT NO.: 68-W9-0004
DOCUMENT NO.: TES7-C03041-EP-BLGD
SUBJECT: Oversight Report for Work Assignment C03041
Activities for the Month of November 1989
Standard Chlorine of Delaware Site
TES7-C03041-RT-BLGF-02

Dear Ms. Spiewak:

Please find enclosed the Oversight Report for Activities for the Month of November, 1989 at the Standard Chlorine of Delaware Site, as partial fulfillment of the reporting requirements for this work assignment.

If you have any comments regarding this submittal, please contact me at (215) 293-0450 within two weeks of the date of this letter.

Sincerely,

CDM Federal Programs Corporation



Mark diFeliciano
Regional Manager

MdF/slf

Enclosure

cc: ~~Robert Gurni~~, EPA Primary Contact, CERCLA Region III
Jean Wright, EPA TES VII Project Officer (letter only)
Stephen Kovash, EPA TES VII Contracting Officer (letter only)
Constance V. Braun, CDM Federal Programs Corporation Program Manager
Robert Murphy, Versar Inc. (letter only)

OVERSIGHT REPORT
ACTIVITIES
FOR THE MONTH OF NOVEMBER 1989
AT THE
STANDARD CHLORINE OF DELAWARE SITE

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460

Work Assignment No.	: C03041
EPA Region	: III
Site No.	: 3PH6
Contract No.	: 68-W9-0004
CDM Federal Programs Corporation Document No.	: TES7-C03041-RT-BLGF-02
Work Assignment Manager	: Kathy Garris
Telephone Number	: (215) 293-0450
Primary Contact	: Robert Guarni
Telephone Number	: (215) 597-3164
Date Prepared	: December 19, 1989

AR300565

1.0 INTRODUCTION

CDM Federal Programs Corporation (FPC) received a work assignment (WA No. CO3041) for continued enforcement support to the U.S. Environmental Protection Agency (EPA) Region III during a Remedial Investigation/Feasibility Study (RI/FS) at the Standard Chlorine of Delaware, Inc. (SCD) site located in Delaware City, Delaware. CDM FPC has subcontracted Versar, Inc. to perform technical oversight activities. Specifically, Versar is conducting oversight of field investigations performed by the RP and their contractor, Roy F. Weston, Inc., and accepting split samples.

Standard Chlorine of Delaware, Inc. manufactures chlorobenzenes on a 46-acre site in Delaware City, Delaware. In September 1981, about 5,000 gallons of monochlorobenzene spilled from a railroad car on the Standard Chlorine property. Subsequent sampling was performed and identified chlorobenzenes in onsite soils, in shallow ground water underlying the site, and in nearby Red Lion Creek. The RP and their contractor, Roy F. Weston, Inc., have studied this problem and have prepared reports on the extent of contamination, evaluated remedial alternatives and feasible technologies, and have begun recovery of contaminated ground water at the site. In September 1985, the SCD site was proposed by the EPA for the National Priorities List (NPL).

On January 5, 1986, onsite storage tanks ruptured and 562,000 gallons of paradichlorobenzene and trichlorobenzene were spilled onto SCD property and into adjacent wetlands. The RP engaged a remedial contractor and initiated clean-up activities within hours of the spill occurrence. The RP and the clean-up contractor prepared the ESD detailing emergency clean-up activities and ongoing remedial activities at the SCD site.

Standard Chlorine signed a consent order with the Delaware Department of Natural Resources and Environmental Control (DNREC) on January 22, 1988. As required in the consent order, they submitted a Phase I RI/FS work plan for approval by DNREC. The consent order was then amended so that a single site-wide RI/FS could be performed. A revised RI/FS work plan was then submitted to EPA and DNREC and was approved for the current activities at the SCD site.

2.0 SUMMARY OF ACTIVITIES

Versar representatives conducted oversight of the RP contractor's field investigations and accepted split samples from November 13, 1989, to November 30, 1989, at the SCD site located in Delaware City, Delaware. A summary of the field activities observed and the split samples accepted by Versar personnel are presented in this section. Details of the daily activities performed at the site were recorded in the field notebook. Copies of the notebook are included as Attachment A. During the site activities, a limited number of photographs were also taken and are included as Attachment 2.

The following personnel were at the site between November 13 and 30, 1989:

<u>PERSONNEL</u>	<u>AFFILIATION</u>	<u>DATES ON SITE</u>
Lisa Woodings	Versar, Inc.	Nov. 13 thru 17
Russ Meier	Versar, Inc.	Nov. 13 thru 17
Jan Spohn	Versar, Inc.	Nov. 20 thru 22
David Spencer	Versar, Inc.	Nov. 20 thru 22
		Nov. 27 thru 29
Lorna Luebbe	Versar, Inc.	Nov. 27 thru 30
Bob Touhey	SCD	Nov. 13, 15, 17, 20, and 28
Bob Guarni	EPA	Nov. 15
Diane Wehner	DNREC	Nov. 13, 15, 17
Lyn Lawlor	Weston	Nov. 13 thru 17
		Nov. 20 thru 22
		Nov. 27 thru 30
Dave Cairns	Weston	Nov. 13 thru 17
Bill Schoellkopf	Weston	Nov. 14 and 15
Dale Davis	Weston	Nov. 27 and 28
Mary Dolhancy	Weston	Nov. 14 and 28
Lisa Weis	Weston	Nov. 14 and 28
Surveyors	Surveying Crew	Nov. 27 thru 30

During the week of November 13 to November 17, a field office and decontamination line were set up by the RP contractor. Then, sampling locations for soil piles and soil drainage areas were marked with wooden stakes. Wetland reconnaissance was begun by marking the edges of the wetlands based on vegetation and soil characteristics and appearance. Soil piles 1, 2, and 3 were

sampled initially on November 15, but had to be resampled on November 17 because the RP contractor neglected to take semi-volatile samples during the initial sampling event. Additionally, the surface water and sediment sampling was scheduled to take place on November 16 and 17, but was delayed by the weather. Finally, a failed attempt was made to sample between the liners in the sedimentation basin (i.e., the monitoring zone) on November 17. The RP contractor was unable to get the bailer inserted in the pipe to the water surface.

Eight samples, including an equipment blank and a duplicate, were collected from three sampling locations at two different depths by the RP contractor during the week. The samples were collected using a hand auger and stainless steel trowels as specified in the approved QA Plan. Versar accepted the following split samples:

Versar Sample No.	RP Contractor Sample No.	Sample Location/Description
TB-17	N/A	Trip blank
SP-1	SP-1-1-1	Soil pile no. 1- 1, 2, 3 Trichlorobenzene = 22.9 11.4
Penta = 32,000	1, 2, 3, 4 Extra = 510,000 11, 4, 5 Extra = 970,000	

During the week of November 13, OVA readings taken by the RP contractor were not above background levels in the breathing zone at any time. OVA readings from 250 to 1000 ppm were detected in the holes of soil piles on November 16 and 17. All samples were collected according to the approved QA Plan in level D protection consisting of tyvek suits, rubber boots, rubber gloves, outer rubber gloves, and hard hats.

On November 15, the EPA primary contact informed Versar field personnel to contact him directly with updates on site activities. Also, the EPA Central Regional Laboratory (CRL) notified Versar that the RP contractor's proposed method for fish tissue analysis has been found to be unworkable in some areas. Specifically, the fats and cholesterol present in the fish tissue pose problems in the clean-up and chromatography and

volatile analysis of fish pose storage and matrix problems. Additionally, an accurate method for splitting of the fish samples has not been determined. Therefore, the fish sampling will be delayed.

Site activities during the week of November 20 ended on November 22 due to the Thanksgiving holiday. During this week the RP contractor decontaminated equipment and sampled the soil drainage area. The equipment was decontaminated with a solution of Alconox detergent and water, and then was rinsed with methanol and DI water. Twenty-four samples, including one trip blank and three duplicates, were taken by the RP contractor during the week. Two depth-discrete samples (0-6" and 12-18") were collected from each of ten previously marked sampling locations using a hand auger and stainless steel trowel. Versar accepted the following split samples:

<u>Versar</u> <u>Sample No.</u>	<u>RP Contractor</u> <u>Sample No.</u>	<u>Sample Location/Description</u>
SD-2	SR-3-1-1	Soil drainage no. 3; 0-6"
SD-3	SR-4-1-1	Soil drainage no. 4; 0-6"
SD-4	SR-5-1-1	Soil drainage no. 5; 12-18"
TB-16	N/A	Trip blank

Observed OVA readings were not above background levels in the breathing zone at any time. OVA readings of 16-1000 ppm were detected in the holes of sample locations SR5-SR7 on November 21. All samples were collected in accordance with the approved QA Plan in level D protection.

During the week of November 27, the RP contractor decontaminated equipment, marked sample locations in Red Lion Creek and the Tributary with wooden stakes, attempted and failed to sample between the liners of the sedimentation basin, began sampling sediment and surface water, sampled the sedimentation basin, and marked sample locations for the 1981 and 1986 spill pathways with wooden stakes. The RP contractor collected a total of 26 samples including an equipment blank, a field bla

duplicate. Surface water samples were collected by dipping the sampling container into the water. The temperature, pH, conductivity, and dissolved oxygen were measured in the field for each of the surface water samples and recorded in the site notebook. The sediment samples were collected using either a decontaminated dredge or stainless steel trowels. Versar accepted the following split samples:

Versar Sample No.	RP Contractor Sample No.	Sample Location/Description
SWT-9	SW-3-0-1	Surface water, location 3
SWD-18	SW-3-0-1	Duplicate of SWT-9
SWR-8	SW-17-0-1	Surface water, location 17
BB-10	SW-4-0-3	Field blank, surface water
SR-11	SD-8-0-1	Sediment, location 8
SR-12	SD-13-0-1	Sediment, location 13
SR-13	SD-3-0-1	Sediment, location 3
SR-14	SD-8-0-1	Duplicate of SR-11
SB-6	BS-1-0-1	Sedimentation basin sediment
BB-5	SD-4-0-3	Equipment blank, sediment
B-19	N/A	Trip blank
B-20	N/A	Trip blank

OVA readings were not above background levels in the breathing zone at any time. All samples were taken in accordance with the approved QA Plan with sampling personnel in level D protection.

= Clean Semi-volatiles

11,000
26,000
5,200
1,200
640

1,2,3 trichlorobenzene = 650,000
1,900,000
1,100,000
1,900,000
270,000

pentachlorobenzene = 190,000

3.0 PROBLEMS AND RESOLUTIONS

There was a change in the work plan with regard to the fish analysis method. The CRL informed Versar that some potential problems may exist with the RP contractor's method for fish analysis. Since another method could not be approved in time, the fish analysis was postponed until the spring.

The SAS request for the higher chlorinated benzenes (tri-through hexa-chlorinated) and nitrobenzene could not be filled in time for sampling due to the late notice. The problem was resolved by sending the SAS analyses to Versar's lab through a RCRA assignment until the SAS requests could be revised and resubmitted.

The RP contractor was unable to sample between the liners of the sedimentation basin using the method proposed in the work plan. A teflon bailer with tubing and pump and a stainless steel bottom loading bailer were both attempted without success. This methodological problem contributed to the delay in sampling.

During the first sampling attempt for the soil piles, the RP contractor neglected to collect samples for semivolatile analysis and neglected to collect a composite from soil piles 2 and 3. This was resolved by abandoning the first set of samples and collecting a new set of samples from the same areas. This problem also contributed to the delay in sampling.

4.0 FUTURE ACTIVITIES

During December, the RP contractor plans to sample between the liners in the sedimentation basin with a stainless steel top loading bailer and to finish the Red Lion Creek and Tributary sampling. The RP contractor then plans to begin the sampling along the 1981 and 1986 spill pathways. This sampling is expected to continue for two weeks during which time the RP contractor will begin screening the wetlands. Wetlands sampling is expected to begin in three weeks following completion of screening.